AMENDMENTS TO THE CLAIMS

Claims 1-11 (canceled)

12. (new) A process for producing a partially low-fat flour having a high content of stabilized polyunsaturated fatty acid, comprising the steps of:

selecting a plurality of Salvia Hispanica L. seeds;

incorporating the plurality of Salvia Hispanica L. seeds into pressing equipment; pressing under temperature control the plurality of Salvia Hispanica L. seeds with the pressing equipment where i) a ratio between polyunsaturated fatty acids and antioxidants of the Salvia Hispanica L. seeds is changed, and ii) an oil and an expeller sub-product is formed therefrom;

cooling the expeller sub-product to room temperature; and grinding the expeller sub-product, already at room temperature, to obtain a different particle size to form a partially low-fat flour with a high content of polyunsaturated fatty acids.

- 13. (new) The process of claim 12, wherein the stabilized polyunsaturated fatty acid is an Ω_3 polyunsaturated fatty acid.
- 14. (new) The process of claim 12, wherein the oil is a mixture of oils selected from a group consisting of i-caryophyllene, i-bourbonene, i-pinene, widdrol, germacrene, linalool, valencene, muurolene, globulol, a-humulene, t-cadinol and mixtures thereof.
- 15. (new) The process of claim 12, wherein the polyunsaturated fatty acids further comprises multiple vitamins and macro-elements.
- 16. (new) The process of claim 15, wherein at least one of the multiple vitamins is selected from a group consisting of vitamin A, niacin, riboflavin and thiamin.

- 17. (new) The process of claim 15, wherein the macro-elements are selected from a group consisting of calcium, potassium, magnesium, phosphorus, aluminum, boron, copper manganese, molybdenum and zinc.
- 18. (new) The process of claim 12, wherein the polyunsaturated fatty acids comprise up to 7 wt% of oleic acid, up to 23 wt% of linoleic acid, up to 63 wt% of alphalinolenic acid, up to 7 wt% of palmitic acid, up to 3wt% of stearic acid, and less than a tenth part percent of myristic acid.
- 19. (new) The process of claim 12, wherein the pressing equipment is a screw extruder which gradually presses the seeds such that the molecular cis-cis structure of the polyunsaturated fatty acids are preserved.
- 20. (new) The process of claim 12, wherein the step of pressing step concentrates and preserves the antioxidants.
- 21 (new) The process of claim 12, wherein the step of grinding is accomplished by a disc-driven mill.
- 22. (new) The process of claim 12, wherein the step of pressing includes a working temperature that is maintained below 45°C.
- 23. (new) The process of claim 12, wherein the changed ratio between polyunsaturated fatty acids and antioxidants is modified by reducing the weight percentage of polyunsaturated fatty acids.
- 24. (new) A partially low-fat flour having a high content of stabilized polyunsaturated fatty acid produced by the process of claim 12, wherein the partially low-fat flour comprises 3-29 wt% fats, 16-27 wt% protein, and 20-34 wt% dietary fiber, of which at least 40 wt% is insoluble dietary fiber.

- 25. (new) The partially low-fat flour of claim 24, wherein the protein includes at least one amino acid selected from the group consisting of threonine, lysine and leucine.
- 26. (new) A partially low-fat flour of claim 24, wherein the low-fat flour provides 19-21 wt% of fat, 21-23 wt% of protein and 25-27 wt% of dietary fiber, of which at least 40 wt% is insoluble dietary fiber.
- 27. (new) A expeller sub-product made from pressed Salvia Hispanica L. seeds, obtained from the process of claim 12, comprising polyunsaturated fatty acids and antioxidants.
- 28. (new) The expeller sub-product of claim 27, wherein the expeller sub-product further comprises up to 29 wt% of fatty matter, up to 27 wt% of protein, and up to 34 wt% of dietary fiber, of which at least 40 wt% is insoluble dietary fiber.
- 29. (new) The expeller sub-product of claim 27, wherein the polyunsaturated fatty acids include up to 7 wt% of oleic acid, up to 23 wt% of linoleic acid, up to 63wt% of alpha-linolenic acid, up to 7 wt% of palmitic acid, up to 3 wt% of stearic acid, and less than a thenth of a part of myristic acid.
- 30. (new) The expeller sub-product of claim 27, wherein the polyunsaturated fatty acids further comprises multiple vitamins and macro-elements.
- 31. (new) The process of claim 30, wherein at least one of the multiple vitamins is selected from a group consisting of vitamin A, niacin, riboflavin and thiamin.
- 32. (new) The process of claim 30, wherein the macro-elements are selected from a group consisting of calcium, potassium, magnesium, phosphorus, aluminum, boron, copper manganese, molybdenum and zinc.

33. (new) A method for incorporating the partially low-fat flour product of claim 24 into various food products, comprising:

mixing in a mixer until homogenized the partially low-fat flour with at least one food product selected from a group consisting of wheat flour, corn flour, soy flour, cereal flour, legume flour, meat based paste, vegetable based paste, dairy products and mixtures thereof; and

cooking the homogenized mixture.

- 34. (new) The method of claim 33 wherein the partially low-fat flour having a high content of stabilized polyunsaturated fatty acids represents 1-4 wt% of the homogenized mixture.
- 35. (new) A method for incorporating the expeller sub-product of claim 27, comprising:

mixing in a mixer until homogenized the expeller sub-product with at least one product select from a group consisting of wheat flour, corn flour, soy flour, cereal flour, legume flour, meat based paste, vegetable based paste, dairy products and mixtures thereof; and

cooking the homogenized mixture.

36. (new) The method of claim 35, wherein the expeller sub-product represents up to at least 90 wt% of the homogenized mixture.